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Question Paper Code : X 20278

B.E./B.Tech. DEGREE EXAMINATIONS, NOV./DEC. 2020

Eighth Semester

Civil Engineering

CE6016 – PREFABRICATED STRUCTURES

(Regulations 2013)

(Common to PTCE 6016 – Prefabricated Structures for B.E. (Part Time)

Civil Engineering – Seventh Semester – Civil Engineering (Regulations 2014)

Time : Three Hours

Maximum : 100 Marks

Answer All questions

PART – A

(10×2=20 Marks)

1. State the purpose of Modular coordination in prefabricated design.
2. What is meant by Box-Type construction ?
3. Sketch neatly the Precast concrete sandwich wall Panel along with details.
4. Classify the precast floor based on the load transfer.
5. Why joint flexibility is considered as important in precast structure ?
6. How the prefabricates can be classified based on material ?
7. What is meant by shear connectors ?
8. Differentiate the dry joint and wet joint.
9. Define degree of Progressivity.
10. Write a short note on ductility of a structure.

PART – B

(5×13=65 Marks)

11. a) Describe the various processes involved in the manufacturing of precast concrete elements in precast plant.

(OR)

- b) i) Discuss the important points to be kept in view while stacking precast concrete elements during transport and storage. (7)
- ii) List the items of work involved in the erection of precast elements. (6)



12. a) Sketch the typical sections of precast concrete beams and girders used in prefabricated construction along with its applications.

(OR)

b) Briefly describe the precast concrete sloping roof units with neat sketches.

13. a) Generalize the steps involved in the process of disuniting of prefabricated structures.

(OR)

b) Explain the problems in design because of joint flexibility. Discuss with regard to various location.

14. a) i) Discuss the role of a structural joint in precast structure. **(8)**

ii) List the main factors to be considered while designing a structural joint. **(5)**

(OR)

b) Summarize the different connection materials widely used in the prefabricated construction.

15. a) Explain the procedure for calculating equivalent design loads when the structure is subjected to earthquake loading based on IS code provision.

(OR)

b) Suggest the methods or measures to avoid the disproportionate collapse due to accidental load.

PART – C

(1×15=15 Marks)

16. a) Explain the prograssive collapse with a case study.

(OR)

b) Discuss the different features of prefabricated wall component suitable for low cost housing projects with the help of recent case study.
